

TESTIMONY OF
FRED HANSEN
GENERAL MANAGER
TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON
BEFORE THE
HOUSE COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEE ON HIGHWAYS AND TRANSIT
ON
PUBLIC TRANSPORTATION, ENERGY REDUCTION AND
ENVIRONMENTAL SUSTAINABILITY IN SURFACE TRANSPORTATION

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SUBMITTED BY

TRIMET

4012 SE 17th Avenue
Portland, OR 97202
www.trimet.org

IN COOPERATION WITH



American Public Transportation Association
1666 K Street, N.W.
Washington, DC 20006
www.apta.com

Chairman DeFazio, Ranking Member Duncan and distinguished members of the Subcommittee, I thank you on behalf of TriMet and the American Public Transportation Association (APTA) for the invitation to address you today on the important issue of energy reduction and environmental sustainability in surface transportation.

Public transportation is an essential part of the solution to making America more energy-efficient and environmentally friendly

At a time when America must stimulate its economy, create more jobs, reduce its dependence on foreign oil, and become more carbon efficient, public transportation can make a significant contribution quickly and cost-effectively. An essential course of action is to transfer a significant amount of automobile travel to public transportation.

Public transportation investment, energy efficient land-use policies and other strategies that promote transportation choices are proven ways to reduce emissions from the transportation sector. By reducing travel and congestion on roadways and supporting more efficient land use patterns, public transit already saves **4.2 billion gallons of fuel** and **37 million metric tons** of carbon emissions a year, while supporting **2 million jobs**.¹

While public transportation is already a significant part of the solution, the potential for greater green dividends from public transportation in America is vast if appropriate public transportation is made available in every community. Those who choose to ride public transportation reduce their carbon footprint and conserve energy by eliminating travel that would have otherwise been made in a private vehicle, and even the length of vehicle trips is considerably shorter for households that live near transit. In fact, households within close proximity of public transportation drive an average of 4,400 fewer miles annually than those with no access to public transportation. Unfortunately, only 54 percent of American households have access to any public transportation services according to U.S. Census data, and American's can't use what they don't have.

If we are serious about achieving energy security and addressing climate change, America should set a minimum goal of doubling the market share for public transportation by 2020 and achieving, by 2045, a public transportation market share equal to that in the European Union.

We can accomplish this by achieving a 5.5-percent annual growth rate for public transportation. But we can accelerate this with a much more ambitious growth rate of 10 percent, which, if sustained, could save the country 15.2 billion gallons of fuel annually by 2020—almost as much as we currently import from the Persian Gulf. This investment would also cut 141.9 million metric tons of carbon emissions per year—about 8 percent of the total carbon emissions from the U.S. transportation sector.

This would require an investment of 1.6 percent of U.S. GDP per year, far less than the more than 10.5 percent that transportation-related goods and services contribute to GDP overall. (See attached Executive Summary of *Changing the Way America Moves*).

¹ ICF International, "The Broader Connection between Public Transportation, Energy Conservation and Greenhouse Gas Reductions," February 2008.

Combining high quality transit with energy-efficient land use planning has been central to the success of the Portland region

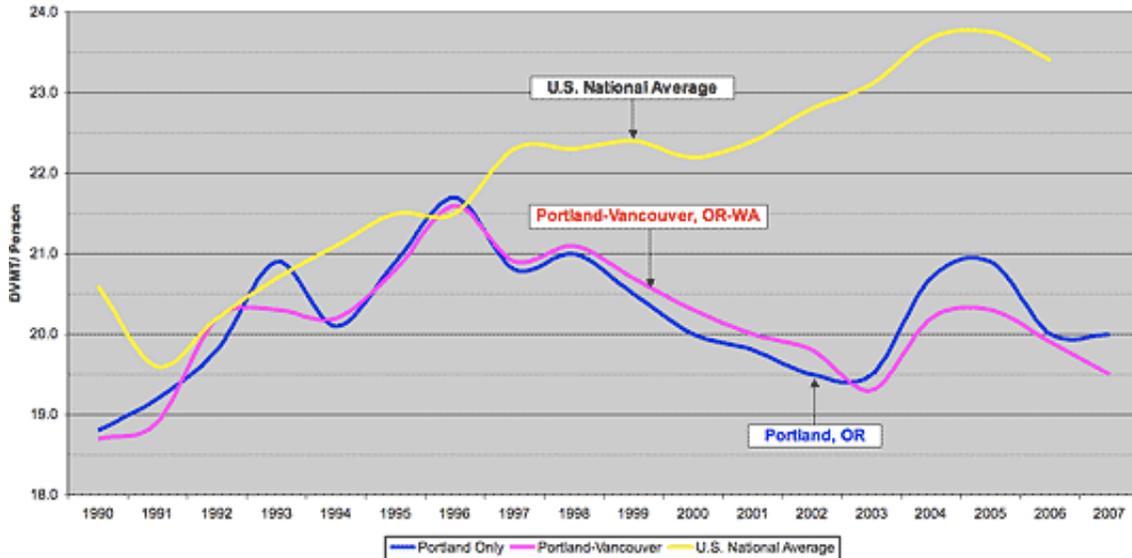
How do we unleash the power of public transportation to reduce GHG emissions and protect our environment? To begin, the federal government must do its part to expand transit availability and promote energy efficient land-use patterns and transit-oriented development. Efficient land use, combined with good transit service, particularly fixed guideway service—subway, light rail, commuter rail, streetcar and bus rapid transit—produces results far beyond the immediate benefit of increased use of public transportation.

Efficient land use has the potential to significantly change the way we live and travel, reducing our individual carbon footprints while preserving and enhancing our mobility. Higher densities allow for closer proximity of housing, employment and retail, reducing driving distances and enabling communities to plan for and support alternative travel options. In many central business districts, trips taken for shopping, dining or other non-commuting purposes are often made on foot—even by those who drive to work.

In the Portland region, we have seen the benefits of this approach. For over 30 years, the region has been pursuing a radically different path than most urban areas of the United States. In the 1970's, the region chose to cancel a long-standing freeway expansion program and instead direct resources into a multi-modal transportation system. This was coupled with the establishment of an urban growth boundary and the alignment of regional and local land use and transportation plans.

The result of this marriage of smart transportation investments—particularly transit—and land use planning is more compact, efficient cities that are easier to serve with non-automobile transportation modes. Reliable bus service, streetcar and light rail lines, combined with attention to bicycle and pedestrian planning, ensure that residents who choose not to drive can take advantage of a variety of other travel options.

- Between 1996 and 2006, transit ridership in the region grew by 46 percent, while population only grew 16 percent.
- At the same time, daily vehicle miles traveled (DVMT) per capita in the Portland region declined by 8 percent, while the average length of a work trip decreased 33 percent.
- In contrast, national DVMT per capita rose by 8 percent over the same period.



Source: Metro Regional Government: <http://www.oregonmetro.gov/index.cfm/go/by.web/id=26796>

In addition to helping the region meet federal air quality standards, these trends are reducing GHG emissions and helping address climate change. Between 1990 and 2007, community-wide GHG emissions for the City of Portland and Multnomah County, the area’s most urbanized county, dropped 17 percent on per capita basis.²

And it is clear that residents have discovered these alternative ways of getting around in our mixed use neighborhoods, such as Northwest Portland. When comparing the travel patterns that we see in this dense section of the Portland region with just the rest of the Portland region (which many people recognize is less automobile dependent than many of the nation’s suburban areas), we see dramatic differences. Specifically:

- Residents are about 11 times more likely to take public transportation than they are in the region as a whole.
- They are four and half times more likely to walk, and about two times more likely to go by bicycle on those trips.
- On average, individuals in these denser, mixed-use communities drive about half as many miles and have one-half the car-ownership as compared to the typical average person in the rest of our community.³

As these results demonstrate, the aggressive development of high capacity transit coupled with regional land use management has made the Portland region a successful model that could provide a framework for other regions to emulate as we turn our attention to reauthorization of the surface transportation bill.

² City of Portland Office of Sustainable Development:
<http://www.portlandonline.com/osd/index.cfm?c=41896>

³ Source: Metro Regional Government Household Travel Survey

At the same time that the transportation bill is up for authorization for the next six-year period, the Congress is also considering or will have recently enacted legislation related to energy security and reducing greenhouse gases to support national climate change initiatives. From the perspective of Portland's regional transportation policymaking body (of which I am a member), it is important that these legislative initiatives be linked and that the transportation program reinforces and helps implement energy and GHG goals.

In particular, if a carbon tax and/or a carbon cap and trade program is established, it should be structured to allow use of these funds on transportation projects that reduce greenhouse gases based upon the merits of those projects. Furthermore, if the carbon tax extends to motor vehicle fuel, these funds should be integrated with the broader transportation funding programs to ensure funding for transportation projects that reduce greenhouse gases in proportion to the share of greenhouse gases produced by motor vehicles. Finally, much like the transportation/Clean Air Act link, investments from the transportation bill should be consistent with energy and climate change mandates and include a conformity requirement. I also personally see the need to set regional GHG emission reduction targets in line with adopted national goals. Much like California's SB375, Oregon is considering the establishment of regional targets for the state's metropolitan areas and how to provide them with new planning tools for transportation and land use decisionmaking they need to meet the state's GHG reduction goals.

While it is yet to be implemented, I would also like to draw your attention to an emerging policy concept to let you know how we are thinking about the next step in integrating land use and transportation in Oregon. Our Governor has proposed for consideration in the current legislative session the concept of looking at transportation investments through the lens of least-cost planning.

For those of us who are familiar with least-cost planning in the public power utility world, we recognize that it was the most effective tool to help people understand that every time you had an additional power need, you did not have to build a new power plant. If, in fact, the least-cost way to meet this additional demand was by conserving power elsewhere (e.g., by installing weatherization treatments or by cutting down on other power demand needs), you did not have to build the new power plant by investing in those alternatives and produced a better, cheaper result.

If we think about applying the least-cost planning concept to transportation, it sets up a new framework for transportation planning in which planners do not just compare one highway project to another or one highway project to a transit project. Rather, it forces transportation decisions to be made more comprehensively from a standpoint of land use as well. For example, the least-cost framework would empower planners to evaluate whether, in the long run we can provide in our regional and town centers a greater level of development to allow people to walk, bicycle or take public transit when necessary, rather than having to expand automobile capacity on our roadways. In this way, it could provide a new and powerful framework through which planners and the public can accomplish community goals by better integrating our land use with our transportation policies and investments.

Public transportation is on a path to becoming as energy-efficient and environmentally-friendly as it possibly can be

Another area in which the Portland region aims to lead by example is greening our transit operations. While high quality transit service itself is inherently part of a green community, by advancing their own sustainability practices transit providers can expand the benefits enjoyed by communities in return for their investment in transit.

The green dividends of aggressively investing in public transportation growth are even more compelling when we look at the time lag for achieving greater fuel efficiency from the automobile fleet versus the commercial bus fleet. Today, with over 25 percent of the bus fleet using alternative fuels, the bus fleet is relatively much cleaner than the automobile and light truck fleet. Due to stricter mandates and public policy pressure, bus fleets will continue to become more efficient more quickly—so much so that, by 2020, the fleet could be entirely hybrid and thus emit 25-30 percent less pollutants than today. By 2050, efficiency could be 50 percent greater, due to lighter vehicle weight, increased use of alternate propulsion with energy storage, as well as smaller engines and superior vehicle-assist technology.

At TriMet, we have worked hard to improve the efficiency of our vehicles, benefiting the environment and our budget. Through a concerted focus by our operators and mechanics on reducing idling at layovers, adjusting transmission and shift points, front-end alignments and steering control arms, and maintaining a set tire pressure, TriMet has reduced fuel consumption in our bus fleet by over 7.5 percent since 2000. We use regenerative braking on our light rail trains, akin to hybrid-electric cars, to reduce energy consumption by over 20 percent. We are testing new equipment developed by the U.S. military and used in NASCAR to further improve our bus fleets' fuel economy, with early results suggesting an additional fuel savings of 5 percent. TriMet also uses a 5 percent biodiesel blend throughout our fleet.

Complementing these operational efficiencies and innovations, we at TriMet focus on making our service as attractive as possible to increase ridership and further heighten our efficiency gains on a per passenger basis. We do this through a focus on providing frequent, reliable service during all times of the day and every day of the week; clear customer information; easy access to stops; comfortable places to wait for transit; and modern vehicles.

TriMet's online Trip Planner gives users step-by-step instructions showing how much to pay, how long the trip will take, and how to get to a destination using buses, MAX and the Portland Streetcar—including where to board, make transfers and walking directions. In addition to helping customers plan their trip, we also think it is important, especially in this era of extreme time management, to recognize that merely having published schedules for our public transit system is not enough. We need to provide our customers with real time information about their transit trip.

To do this for our customers, TriMet has developed Transit Tracker. This is a system that can be accessed either through an office or home computer or by your cell phone. By entering the location of the bus stop or train station, you are able to get the actual arrival time of the next bus or train. For those of us who are regular transit users, as I am, it takes the guesswork out. It means that you can relax or read, get a cup of coffee, or know that you need to stay there because your ride is expected in a couple of minutes. We now have over one and a quarter million calls per month to the Transit Tracker service because people want to have greater control of their lives and be able to better manage their time while still making use of the public transit option.

Also, I am quite proud to say, that while Google is in the forefront of providing mapping for all sorts of travel and locational needs, as they began developing their system to include transit options and looked across the country at transit systems, they chose Portland, Oregon. They did this in part because we have the data that are necessary to provide the mapping, but also because TriMet has personnel that are committed to providing tools to assist our riders in making it easy and convenient to use our system. This reflects our commitment to ensure transit becomes an integral part of their lives and an element of how they operate on a day in and day out basis. Google has now expanded that system to over 75 cities and two states within the United States and to another twenty plus international cities and three countries based on the model developed with TriMet.

Transit agencies across the country are greening their infrastructure, operations and maintenance

And TriMet is certainly not alone in this endeavor. APTA, which represents over 1500 transit agencies and transit-related businesses—90 percent of transit riders travel on APTA member systems—has launched a transit industry-wide sustainability commitment with a goal of signing on 85 percent of its membership by the end of the year. I chair this effort on behalf of APTA. This commitment is performance-based and sets clear reduction targets for water usage, criteria air pollutants and water pollutant discharge, carbon emissions, energy use and waste. The structure of the commitment is such that transit systems with the highest level of environmental performance are being asked to continuously improve their performance. (*See attached APTA Sustainability Commitment document.*)

The future of our nation, in many ways, will rely on a dramatically expanded public transit system—a system that provides high quality transportation for most of our citizens. It must be a system that helps reverse the threat of global climate change. And, finally, it must facilitate the integration of our transportation and land use systems.

Thank you for the opportunity to appear before you today.

**Changing the Way America Moves:
Creating a More Robust Economy, a Smaller Carbon
Footprint, And Energy Independence**

At a time when America must create more jobs, reduce its dependence on foreign oil, and become more carbon efficient, public transportation can make a significant contribution quickly and cost-effectively. Public transportation already saves 4.2 billion gallons of fuel and 37 million metric tons of carbon emissions per year, while supporting 2 million jobs. This paper shows that with an investment of 1.6 percent of the U.S. GDP per year, public transportation could support 8.9 million jobs and, by 2020, could save the country 15.2 billion gallons of fuel annually—almost as much as we currently import from the Persian Gulf. This investment would also cut 141.9 million metric tons of carbon emissions per year—about 8 percent of the total carbon emissions from the U.S. transportation sector.

A Discussion Paper by the American Public Transportation Association
January 2009



EXECUTIVE SUMMARY

Changing the Way America Moves: Creating a More Robust Economy, a Smaller Carbon Footprint, And Energy Independence

The Problem

Transportation is one of the largest and fastest-growing factors in America's dependence on foreign oil and its large carbon footprint. Since 1973, Americans have been traveling 250 percent more miles per capita each year and using more than 36 percent more oil for transportation purposes. As a percentage of U.S. oil consumption, net oil imports have risen from 35.8 percent in 1975 to 58.2 percent in 2007. The growth in annual Vehicle Miles Traveled (VMT) in the United States has outpaced U.S. population growth. From 1970 to 2007, VMT grew by 168 percent while population only grew by 48 percent. In addition, the transportation sector emits about one-third of U.S. greenhouse gas emissions—a share that is rising rapidly, despite the availability of cleaner technologies.

In addition, America's car-based transportation system costs the consumer and the U.S. economy more than personal transportation does in most other developed countries. American households spend 17.6 percent of their budgets on transportation; the average European Union household spends just 11.9 percent. Only 53 percent of Americans have access to any public transportation. This portion is significantly higher in European countries.

The Plan

At a time when America must stimulate its economy, create more jobs, reduce its dependence on foreign oil, and become more carbon efficient, public transportation can make a significant contribution quickly and cost-effectively. An essential course of action is to transfer a significant amount of automobile travel to public transportation. To achieve this, America must make appropriate public transportation available in every community.

America should set a minimum goal of doubling the market share for public transportation by 2020 and achieving, by 2045, a public transportation market share equal to that in the European Union. We can accomplish this by achieving a 5.5-percent annual growth rate for public transportation. But we can accelerate this with a much more ambitious growth rate of 10 percent, attaining a public transportation market share on par with the European Union before 2030.

To create a long-term and significant mobility paradigm shift, this paper offers a plan in which every community would improve its transit based on the size and needs of the community:

- Public transportation in the largest metropolitan areas, with populations over 3 million, would carry a majority of all travel for work and a third of travel overall. Light, heavy and commuter rail systems would be extensive and act as a high-capacity backbone of the entire urban transportation system, supplemented by high-frequency streetcar and bus systems covering a large area of the city and surrounding region. This would ensure not only connections to the city center but between urban sub-centers within metro regions.
- Metropolitan areas with populations between one million and three million would all have a solid commuter rail, light rail, streetcar and bus rapid transit systems with an extensive and integrated bus and paratransit network able to provide connections across the region, carrying over a third of all work journeys and almost a fifth of travel overall.
- In metropolitan areas with populations between 500,000 and one million people, public transportation systems would primarily consist of a dense network of high-quality street car, bus rapid transit and bus and paratransit systems with service provided on a frequent basis.
- In smaller metropolitan areas, between 100,000 and 500,000, a high-quality streetcar, bus and paratransit systems would provide reliable service.
- In smaller communities, public transportation would be based on fixed route bus and paratransit service while rural services would be provided primarily by flexible services tailored to meet the needs of the area. New high-speed rail and expanded intercity bus and passenger rail service would link all areas together.

APTA estimates that an investment of \$134.2 billion in capital costs and \$102.3 billion in operating costs per year (in 2008 dollars) would deliver this plan for all Americans by 2030. This is 1.6 percent of U.S. GDP per year and far less than the more than 10.5 percent that transportation-related goods and services contribute to GDP overall. It would come from a combination of federal, state, and local public resources, as well as private investment.

The Benefits

Adoption of this public transportation investment strategy would:

- Support 8.9 million green American jobs.

- Inject billions of dollars back into the U.S. economy. An investment of \$236.5 billion in combined capital and operating in public transportation yields \$730 billion in increased business sales. Such an investment would generate public and private revenue streams and make the country more economically efficient and productive, paying far-reaching dividends at a time when our economy needs a large stimulus.
- Save all American households \$2,830 per year on average in transportation costs by 2030, significantly reducing the nation's transportation budget.
- Reduce VMT by 11 percent by 2020, saving the U.S. \$37.6 billion per year by reducing congestion and far more if one takes into account the reduction in road fatalities and injuries which would occur.
- Save the United States 15.2 billion gallons of fuel per year by 2020—nearly equal the amount we import from the Persian Gulf today. This would greatly reduce America's dependence on foreign oil.
- Reduce carbon emissions by 141.9 million metric tons per year by 2020, almost 8 percent of total carbon emissions from the transportation sector.

What we do in the next 10 years to reshape our transportation infrastructure will benefit our economy immediately by providing more jobs—and ensure economic prosperity, as well as a healthy and safe environment, for decades to come.

Attachment B - Summary of the APTA Sustainability Commitment



The APTA Sustainability Commitment

On 1 January 2009, APTA launched a pilot phase of its sustainability commitment program. This commitment will call on all APTA members, on a voluntary basis, to commit to putting processes and actions into place which allow for continuous improvement on environmental, social and economic sustainability. It asks APTA members to commit to a set of actions on sustainability to take in a given period and offers a checklist of processes to conform to and reduction targets to meet the criteria of sustainability.

APTA Commitment signatories are asked to measure and communicate on the results of the sustainability actions they have taken on an annual basis. Commitment signatories will also be able to choose the level of commitment they take based on their achievements on sustainability to date. They may choose to move up levels (Entry, Bronze, Silver, Gold or Platinum) as they achieve their goals.

Elements of the commitment

The base principles set the minimum actions which APTA members must take to demonstrate that they are serious about sustainability and are set up for success. It is the base principles that make up the entry level of the commitment and are the elements applicable to the 2009 pilot phase.

The base principles include:

1. Making sustainability a part of your organization's strategic objectives
2. Identifying a sustainability champion within the organization coupled with the proper human and/or financial resources and mandates
3. Establishing an outreach program (awareness-raising and education) on sustainability for all staff of your organization
4. Undertaking a sustainability inventory of your organization, including but not limited to a carbon footprint. A list of indicators has been established outlining what needs to be measured as a minimum and for which a baseline year needs to be determined based on data availability. These include water usage, criteria air

pollutants and water pollutant discharge, carbon emissions, energy use (electricity, fuel), recycling levels and waste.

On 1 January 2010, APTA members will be called to sign onto the higher levels of the commitment, adhering to:

- a set of concrete action items which set quantifiable goals for the short- to medium-term (1-3 years) in operation, maintenance and capital, products and services and in education and outreach with a view to achieving economic, environmental and social sustainability objectives.
- reduction targets for key environmental, social and economic indicators based on baseline measurements made as part of the base principles for adhering to the APTA sustainability commitment.

Organizations committed to silver, gold or platinum status will be asked to set **stretch goals**, longer-term programmatic and process goals (4-6 years) that challenge them to make a very significant difference in the way they function in view of meeting sustainability criteria.

Examples of short to medium-term action items

a) **Operations, maintenance and capital (internal process and policy driven)**

- Put in place ISO 14001 and similar efforts
- Establish in-house “Green Teams”
- Put in place procurement methods that require (or favor) sustainable practices
- Use sustainable practices in the operations and maintenance of organizations and transit systems:
 - Reduce water usage in at least one facility/office
 - Reduce hazardous waste and chemical usage in all agency facilities
 - Have a mobility plan for your organization and offer transit passes as part of employee benefits
 - Set a minimum recycling policy
 - Reduce carbon footprint of meetings e.g. establishing collaborative sites and email distribution of documents as part of a paper-reduction policy
 - Establish a no idling policy to minimize fuel consumption
- Integrate sustainability into system and facilities design and construction:
 - Use green building principles for one new construction project or the adaptation of old infrastructure
 - Build in photovoltaics and/or green roofs at at least one agency building
 - Make contracting with DBE firms part of design and construction policy
 - Adopt an energy efficient appliance purchasing policy

b) Products and services (services or products that are externally based)

- Establish new energy efficiency targets for key products
- Improve sustainability performance of key products
- Work systematically with customers to establish more sustainable processes and products
- Put in place a service(s) to help customers become more sustainable themselves
- Expand programs for populations with few transportation options, such as free passes for low-income school kids
- Use sustainable practices in project planning, development and implementation:
 - Integrate transport & land-use decision-making in all project development
 - Launch comprehensive stakeholder engagement process for a new project
 - Put in place targets for costs savings from use of recycled materials/energy efficiency measures in all new projects
 - Establish a “sustainable proposals” policy (e.g. proposals for bids sent in on 100 percent recyclable paper, double-sided, only one hard copy, maximum set for amount of pages etc.)
 - Ensure all new system offices/stations/facilities are in areas zoned for compact, mixed-use development
 - Put in place sustainability criteria in specifications for all new projects

c) Education and outreach

- Invest in training on EMS (Environmental Management Systems), SMS (Sustainable Management Systems) and/or ISO 14001 practices
- Ensure in-house expertise and coordination of the sustainability program
- Put sustainability on the agenda of regular staff meetings
- Establish resources and tools for use by employees, clients and the community on what sustainability means and how it can be achieved
- Establish an in-house knowledge management system on sustainability
- Put in place partnerships which can allow for resource exchange to achieve sustainability

Examples of reduction targets:

- Reduce your organization’s carbon footprint in terms of emissions per passenger mile by ___ percent over baseline by 20__
- Reduce criteria air pollutant emissions per vehicle mile by ___ percent over baseline by 20__
- Reduce water pollutant discharge and water use per vehicle mile by ___ percent over baseline by 20__

- ❑ Reduce overall carbon emissions of administrative function of organization by ___ percent over baseline
- ❑ Reduce waste by ___ percent over baseline
- ❑ Reduce electricity use by ___ percent over baseline
- ❑ Reduce fuel use per unlinked passenger trip by ___ percent over baseline by 20__
- ❑ Reduce VMT per capita in your community by ___ percent over baseline by 20__
- ❑ Reduce operating expense per unlinked passenger trip and passenger mile by ___ percent over baseline by 20__

Examples of stretch goals

- ❑ Establish a comprehensive measuring and reporting process on targets set, progress made, results achieved which is disseminated both internally within the organization as well as externally, available to all interested stakeholders, including the publication of an annual sustainability report
- ❑ Establish an organization-wide policy and action plan which covers economic, social and environmental sustainability
- ❑ Ensure all new construction meets LEED-like principles and bring existing construction into line
- ❑ Implement EMS, SMS and/or ISO 14001 standards
- ❑ Put in place an sustainable-procurement policy which is based on comprehensive sustainability principles
- ❑ Develop in conjunction with your MPO an integrated transit/land use plan to reduce the acres of developed land/capita in your community
- ❑ Redefine life-cycle costing to sustainability criteria
- ❑ Obtain 3rd party verification of measurements and reductions
- ❑ Become viewed as a sustainability leader in one's community or areas where can play an active role in the community